

Claims

1. A fluid dispersion device comprising
5 - a substrate (3) having an outer section (25) and an inner section (26), said inner section (26) of the substrate (3) having an aperture (11),
- a dispersion element (10) positioned at said aperture (11) of said substrate (3), and
- an actuator (4) arranged to coaxially surround said aperture (11) of said substrate (3),
10 wherein the outer edge of said inner section (26) of said substrate (3) is coupled to said outer section (25) of said substrate by a plurality of resilient members (81, 82, 83).

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2. The fluid dispersion device of claim 1, wherein said aperture is arranged centrally to said inner section (26) and is circularly shaped and wherein said actuator (4) is annularly shaped.

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3. The fluid dispersion device of claim 1 or 2, wherein said plurality of resilient members (81, 82, 83) are serpentine / meandering in form.

25 4. The fluid dispersion device of claim 2 or 3, wherein said plurality of resilient members (81, 82, 83) are aligned radially about the axis of said central aperture (11) of said substrate (3).

30 5. The fluid dispersion device of claim 2 or 3, wherein said plurality of resilient members (81, 82, 83) are aligned at an angle to a line radiating from the centre of said central aperture (11) of said substrate (3).

35 6. The fluid dispersion device of any preceding claim wherein said inner section (26), said outer section (25) and said resilient members (81, 82, 83) are formed as a single solid.

7. The fluid dispersion device of any one of claims 1 to 4, wherein said inner section (26) and said resilient members (81, 82, 83) are formed as a single solid, wherein said outer section (25) is provided with attachment sections (25A) and wherein said resilient members (81, 82, 83) are attached to said attachment sections (25A).

8. The fluid dispersion device of any one of claims 1 to 4, wherein said outer section (25) and said resilient members (81, 82, 83) are formed as a single solid, wherein said inner section (26) is provided with attachment sections (26A) and wherein said resilient members (81, 82, 83) are attached to said attachment sections (25A).

15 9. The fluid dispersion device of any one of claims 1 to 4, wherein said outer section (25) is provided with attachment sections (25A) and said inner section (26) is provided with attachment sections (26A) and wherein said resilient members (81, 82, 83) are attached to said attachment sections (25A, 26A).

10. The fluid dispersion device of any one of the preceding claims, wherein the outer section (25) is provided by a plurality of outer partial sections (25') which are positioned by means of a supporting structure (30) which is preferably ring-shaped.

11. The fluid dispersion device of any preceding claim, wherein said annular actuator (4) is a piezoelectric device.

12. The fluid dispersion device of any preceding claim, wherein at least one of said resilient members (81, 82, 83) is adapted to carry an electrical signal provided for said actuator (4).

13. The fluid dispersion device of claim 11, wherein the inner section (26) of the substrate (3) is adapted to

carry an electrical signal provided for said actuator (4) via the at least one resilient member (81, 82, 83).

14. The fluid dispersion device of claim 11 or 12, wherein
5 the outer section (26) of the substrate (3) is adapted to carry an electrical signal provided for said actuator (4) to the at least one resilient member (81, 82, 83).

15. The fluid dispersion device of any one of the
10 preceding claims, wherein the dispersion element (10) is provided as an integral part of said substrate (3).